EDUCATION RESEARCH DATABASE OF INDONESIA

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Abstrak - *Tulisan dalam makalah ini adalah hasil dari studi pemikiran tentang perlunya dan pentingnya database hasil penelitian pendidikan yang saat ini tidak tersedia di kementrian pendidikan nasional. Sebenarnya, sebuah lembaga riset harus memiliki database hasil penelitian pendidikan, dalam hal ini adalah pusat penelitian kebijakan dan inovasi pendidikan (Puslijaknov), Badan Penelitian dan Pengembangan Pendidikan, Kementerian Pendidikan Nasional. Tapi sayangnya walaupun ketersediaan database penelitian ini merupakan salah satu tugas pokok dan fungsi penelitian dan pengembangan pendidikan namun ternyata saat ini belum tersedia.*
Database yang canggih berbasis ICT dan internet hari ini ketersediaannya sudah dalam taraf mutlak diperlukan para pemangku kepentingan pendidikan seperti guru, dosen dan peneliti pendidikan baik di dalam negeri, maupun untuk para peneliti di luar negeri. Dalam tulisan ini kerangka pemikiran yang diusulkan untuk membuat database hasil penelitian pendidikan sudah sangat perlu mempertimbangkan. Selanjutnya analisis diagram tulang ikan dengan berbagai hubungan antara variabel-variabel dapat digunakan untuk alat bantu membuat database penelitian pendidikan.
Sebagai kesimpulan yang diusulkan dari tulisan ini tentang perlunya ada tiga tim yang harus ada dalam membangun database penelitian pendidikan. Ke tiga tiga tim ini adalah (1) tim ahli di ICT, (2) Tim ahli konten penelitian pendidikan (3) tim ahli yang menjalankan dan mengelola database.

Kata kunci; database dan penelitian pendidikan

***Abstract*--The writing in this paper is a result of the study of thought about the need and importance of educational research database which is currently not available. Actually, the institution should have a database of educational research is education policy and innovation research center, and centre development of education, ministry of national education. But unfortunately despite the availability of this database is one of the main tasks and functions of research and development of education but in fact are not yet available. Sophisticated database based ICT and the internet today is almost absolutely necessary availability of education stakeholders like teachers, lecturers and educational researchers both within the country and to researchers abroad. In writing this under proposed a framework to create a database of education research needs to consider fishbone diagram with various relationships between the variables. Then, as the proposed conclusion is also about the need for three teamwork that must exist in building a database of educational research. All three teams are (1) team of experts in ICT, (2) content expert team of educational research (3) the team that operates and maintains the database.

Keywords--database and educational research

I. INTRODUCTION

Discussing about the database for a researcher must be very interesting. Interestingly the database for a researcher because it is no direct linkage with the daily job as a researcher. For a researcher database is important because it represents the most accurate source of information and the latest is usually contained in the database. Hence the

importance of the database not only for researchers in various fields of science but also in the field of education today is very urgent for the immediate well-made. At this time a special data base on education or on educational research in Indonesia is still outstanding. Due to a sophisticated database for various educational purposes such as research references, communication among researchers, research, exchange of experience, education policy-making materials and educational innovations are now urged to be built soon with the involvement of stakeholders in education.

Importance of databases for quality improvement research and research results in the field of education for research has become axiomatic. The importance of the database as well as for masters and doctoral level students in public universities and private universities is very important. If the database has been available then this could avoid duplication of research activities. Avoiding plagiarism and improve processes and quality of research since the data supported the results of previous studies. In the end, this database can improve the quality of education in general and reducing waste costs of research because there is no duplication of research activities. With a sophisticated database that will be plenty of activities to be efficient because of the researchers and students are not hard to find references. Because it supports information and communication technology (ICT) to build a sophisticated database for the current educational interests in Indonesia, especially for the national education ministry becomes very urgent.

The existence of educational databases that are supported by sophisticated ICT that can reach into all areas of Indonesia in the era of ground water information to the 21st century this is something that can not be avoided. For a database of national education ministry of education today should be a priority of major work that needs to be done by the Agency for Education Research and Development. This is important given the number of public universities, which accounted for 46 locations spread across the provinces in Indonesia and thousands of private colleges of the students in

masters and doctoral levels as well as lecturers currently requires a database for research purposes.

Which will require databases college education not only with students, but the existing education office in each province (33 provinces) and the education office in each district numbers reach 495. All this education office would require a fast and accurate information from a database to support decision making in the area of education. With this is also expected to indirectly or directly in the decision-making long-term education sector should be based on research results. So that each educational policy decision-making supported by a sophisticated database and ICT can make a more efficient and effective in serving the educational needs of the society.

The objectives of Education Research Data Base at a minimum to include 3 things as follows below:
1. As a container preservation research has been done by Research centre for Innovation and education or *Puslitjaknov* particular and generally Office Educational Research and Development a very useful reference for research (national or global or foreign parties). And useful as one of the basic material resources for education policy-making at all levels of management in the region so that the development of education can tune nationally Unity of the Republic of Indonesia we call it *NKRI* in helping to improve the quality of a more equitable quality.
2. As a model of interaction and collaboration of educational research that can be trusted and the most efficient and effective among fellow Researchers fields of educational research both at the national level (research university and a research fellow on education networking in Indonesia for all provinces and districts) as well as at international level.

3. As a barometer of information on all researchers in Indonesia and education stakeholders to the outcomes research and quality education that is being developed by Center For Policy Research and Educational Innovation

in particular and generally Office Educational Research and Development, Ministry of National Education

II. THE BACKGROUND AND CURRENT ISSUE

These background is in office research center for educational policy research and educational innovation, educational research and development agency, the office of the national education ministry, there is no management information system for integrated results of educational research in the form of a database. Therefore a lot of possibilities of research results that have been and will disappear without a trace if not stored properly in an advanced storage system such as a database. Currently it can be said storage research results do not yet have a sophisticated system that the researchers difficulties when searching for a reference topic the previous research results.

Much of the data and information of research results and writing results are not stored in the form of thought but still in softcopy or hardcopy form is still in a traditional store. It was supported there is no regulation that regulates the storage and the obligation to save the file that research results are integrated out systematically.

In addition, current issues about the network system connecting the existing education researchers in the national education ministry in Jakarta with the provincial and district / city has yet to exist. Although educational research network between central Jakarta with the provinces and districts have been formed but has not been going well and there is no media accommodate ICT. Meanwhile, vast geography and there are thousands of islands which almost reached 17 thousand and five hundred more islands in Indonesia makes it very difficult to integrate with ICT. This distress occurs because the infrastructure of each region is not the same condition and many are still sketchy, but the provincial and district located in Java island. Another trouble is the problem of human resources in the ICT field who have the ability to run the use of ICT for different purposes of education is not enough.

III. LITERATURES REVIEW AND DIAGRAM FISH BONE

A. *Database*

According to Connolly and Begg (2003, Q14), understanding databases are a collection of shared data and logically connected and descriptive of this data is designed to meet the information needs of an organization.

According to Wikipedia (http://id.wikipedia.org/wiki/Basis_data, October 14, 2008), meaning the database is a collection of interconnected information and stored in a computer in a systematic way so that it can be checked using a computer program to obtain information from the database.

Legal base about the importance of educational research databases so that one agency's office of research and development of education can meet the public disclosure rules. Fulfill the obligations of public disclosure in accordance with Law No. 14 Year 2008 on the fourth part of Article 7 obligations of public agencies include: (1) a public body shall provide, deliver and / or issue public information under the authority of the applicant's public information, other than information exempted in accordance with the provisions of (2) public bodies shall provide public information that is accurate, correct, and not misleading (3) to fulfill his duties as specified in paragraph (2), public bodies should establish and develop information and documentation system for managing public information properly and efficiently so that it can be accessed easily. Based on this, the database as a research agency performance accountability and educational development must be created or built.

In line with the above legal base related to the database, which requires the use of ICT is Presidential Instruction No.. 6 years old in 2001. this is related to liability and regulation in the government of Indonesia released a policy on the use of ICT for Every line of work, Standard and Poor 'in government, business, and including education.

Regulations and related legislation in this regard is the recent presidential decree on the national

education ministry, the Presidential Act No.14 year 2010 Concerning and organizational structure of Ministry of National Education. In which there are tasks and functions of research and development of education and education policy research center that should already have a database of educational research. Every one of the principle of Institution Should documentation has on their work.

Currently no less nearly three million teachers, as many mentioned in the mass media in Indonesia would need more information about the results of educational research as a reference in conducting research. Because the database is not yet available educational research is not only a teacher but a teaching lecture on education and students who are doing research of course difficulty in finding a reference date. In general that would require data and information about educational research institutions and the number of the person as contained in the table below.

Table 1: Number of Institutions, New Entrants, Student, Graduates, and Lecturers Higher Education

Academic Year	Institutions	New Entrants	Students	Graduates	Lecturers
1969	205	…	176.900	…	30.500
1970	231	…	206.800	…	31.500
1971	259	…	213.200	…	32.400
1972	306	…	221.500	…	33.900
1973	331	…	227.100	…	34.250
1974	351	61.719	231.938	23.024	34.783
1975	381	71.596	250.126	22.147	37.510
1976	376	83.005	275.098	21.502	41.867
1977	379	99.635	305.071	23.761	46.386
1978/79	383	116.833	305.583	24.748	50.456
1979/80	383	150.926	457.633	38.336	50.087
1980/81	403	179.006	543.175	51.145	53.777
1981/82	378	189.852	596.781	73.421	61.142
1982/83	458	215.198	715.422	89.144	74.055
1983/84	478	224.573	823.925	80.943	73.839
1984/85	473	339.804	977.302	62.763	74.763
1985/86	630	299.388	1.048.885	73.325	78.779
1986/87	714	312.254	1.144.501	84.135	99.538
1987/88	793	310.621	1.179.489	121.862	115.359
1988/89	841	326.263	1.356.756	142.597	127.180
1989/90	901	329.472	1.485.894	135.151	88.364
1990/91	963	373.212	1.590.593	147.703	128.652
1991/92	1.001	383.027	1.773.459	149.401	134.729
1992/93	1.076	362.122	1.794.056	192.950	134.674
1993/94	1.173	480.862	2.043.380	217.180	132.467
1994/95	1.236	492.612	2.128.411	218.969	150.607
1995/96		546.295	2.344.027	273.395	157.320

Source: Research Information Centre for Education (2005)

In particular lecturer who estimated needs data and information about education for private research universities in number can be seen in table below. Whereas the number 51 875 98 732 professors and lecturers domestic private university in the year 1998 this situation. it is definitely the current conditions of lecturers who need data and information about the study course in number even higher.

Table 2 : Number of Lecturers at Public and Private Universities

No.	Education Level	University		Total
		Lecturer in Public	Lecturer in Private	
1.	Strata 1 (first degree)	36.312	84.909	121.221
2.	Strata 2 (master degree)	11.932	11.848	23.780
3.	Strata 3 (doctorate degree)	3.631	1.975	5.606
	1) **Total**	**51.875**	**98.732**	**150.607**

Source: Education Development in Indonesia (1998) Ministry of Education and Culture (later the ministry was change to become Ministry of National of Education

Based on the explanations above, in this case can be taken a conclusion that the availability of educational research database needed by many parties. Meanwhile, make the database that is supported by ICT and Internet-based making it easy. Many things must be provided to build a database, for example, experts in the field of ICT, experts in the field of educational research content and people who will run the database and maintain it. For the purposes of educational research database making the following as an analysis tool available fishbone diagram of a theoretical framework that can facilitate the creation of educational research database that will be created

Fishbone Diagram
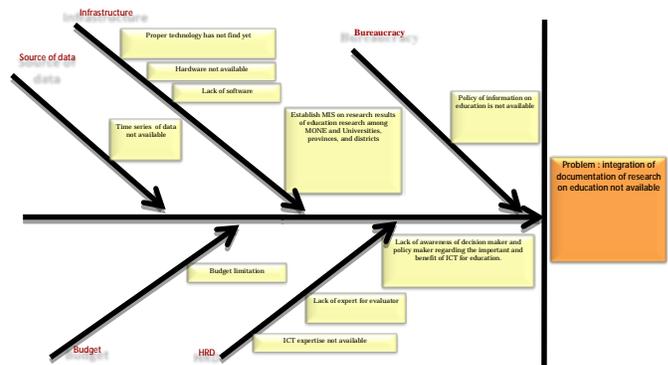
Based above diagram there are in fact related to each variable directly affects another variable. Examples of variable budget limitations directly affect the variable of ICT expertise not available, because to pay for ICT experts would require a fairly high cost. But there is also a variable associated with co-correlation or indirectly related. For example proper technology has not yet find associated with co-correlation with time series data not available. All of these variables to build a database so that all variables must be considered conducive to the direction of the expected formation of a database. Therefore it is necessary to form three teamwork to build a database of this study are (1) team of experts in ICT, (2) content expert team of educational research (3) the team that operates and maintains the database. All this team needs to work efficiently and effectively and create synergies to achieve the vision of a sophisticated database of education research.

As a true comparison of existing materials database that is almost similar but not the same. Namely *Garuda* database (*Garba* Leads Digital) is a scientific reference Indonesian discovery portal which is the point of access to scientific papers produced by academics and researchers Indonesia. *Garuda*, which consists of domestic e-journal, thesis students, and research reports developed by the Directorate of Higher Education Ministry P2M-WWII-LIPI in cooperation with various universities as well as in provision of content. (Source: http://garuda.dikti.go.id/2010)

Other similar educational research databases that would be constructed that is a database which is owned by the Indonesian Institute of Sciences (LIPI), the *Indonesian database Scientific Journal Database* (ISJD) *Indonesian Scientific Journal Database* (ISJD), this site contains a collection of scientific journals published in Indonesia and handed over to the PDII-LIPI to disseminated. Until April 2010, recorded more than 7000 scientific journals published. (Source: Sub. Literature Centre Data Base Bid Documentation and Scientific Information (PDII - LIPI))
 But this database does not specialize in educational research. As a result when searching for references for the purposes of educational research is incomplete and hard to find.

IV. CONCLUSION AND RECOMMENDATIONS

Conclusion:

Education research databases such as management information system with e-learning and ICT is very Important for stakeholders to share information Among the improve quality of education, quality of Researchers, and educators in education policy research center, the body of research and development of education, national education ministries. Today, the database is very needed by the various parties or stakeholders of education.

The database is suitable for educational research and integrated all of the documents of research results and very urgent need for today and the future for interaction, references, notes and exchange-only Experiences Among Researchers and educators in the national level but Also the international level. To build a sophisticated database that required teamwork three groups who are expert in their respective fields. The third is teamwork (1) team of experts in ICT, (2) content expert team of educational research (3) the team that operates and maintains the database.

Third teamwork must work synergistically so that their work has a high efficiency and high effectiveness in the use of Internet-based ICT.

Recommendations:

Based on the description or explanation and the conclusion in above, it can be **five stages** proposed several recommendations to do in create a research database of educational research   in Indonesia, namely:

1.System Analysis Data Base / Data Base Research, include:

a. Analysis of information needs
b. Analysis of the survey system or operating system running

c. Analysis of information needs, design database

d. Literature studies and bench marking

e. Management and chart analysis of the current system

2. Formulation and determination of content management database of educational research:

a. Scope of content
b. Requirements and Analysis content
c. Procedure content flow
d. Letter content providers decision supporting team
e. Policy and / regulation of contents as supporting content
f. Time line each content

3. Designing Data Model Base Results educational and Innovation research on the Web:
a. Data management is still in physical form
b. The formulation content livelihoods data / documents / research / seminars that have not signed but is required for database
c. Team management and the formulation of livelihood
d. Team management of research data transformation / analysis / seminars which are still physical into digital
e. Creating models feature a digital data storage
f. Making a living feature of digital data on the web
g. Make the download feature digital data on / web-based

h. Designing a database on the web in an integrated manner in accordance with the needs and technological developments that will come

4. Hard ware support team and the admin and technical maintenance:

a. Determination of the substance supporting team qualification
b. Determination of the admin support team qualification
c. Determination of scope and time line substance
d. Determination of scope time line admin
e. Training and certification team supporting team
f. The work program of substance and admin support 1-year time line
g. The work program of maintenance and communication flows trouble or error
h. Procurement of hardware according to your needs and specifications determined in phase 2 and 3

5. The test results of design / software Educational Research Database:

a. Operation of the trial based on region or coverage
b. Trial Implementation based on the substance of grouping data
c. Implementation of training for technical admin
d. Simulation and control
e. Simulation and animation in linkage
f. Trial and error simulations organizing a end user friendly

g. Launching educational research database by the end user or all stakeholders.

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